BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 National Diploma in Civil Engineering Pearson BTEC International Level 3 National Extended Diploma in Civil Engineering
Unit number and title	Unit 32: Highway Construction and Maintenance in Civil Engineering
Learning aim(s) (For NQF only)	A: Undertake the planning and preparation works required for highway construction B: Undertake the production of plans for highway construction
Assignment title	Route planning and production of construction details
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	You have been employed as a trainee Civil Engineer in the design office of a large consulting engineer's practice who specialise in the design of infrastructure projects. A local authority has a long-term problem with congestion in a local town. The town, which is expanding due to large new house development schemes, gets a high volume of through traffic from a junction off a nearby motorway. The local authority has had a long-term plan to build a by-pass around the town to avoid motorway bound traffic from going through the town centre. Your company has been appointed as the consultancy to produce a set of proposals on both the route and methods of construction for the new proposed road. ***At the end of the assignment is a proposed plan of highway required the centre may wish to change this to a local road to allow students a better opportunity to develop routes***
Task 1	With regards to the project in the scenario, you have been asked to produce accurate and comprehensive proposals for a new highway. This should include: • Justification of decisions made for route location. You also need to justify the proposed earthwork design against resources and constraints of the local area and contract. • Proposals for the activities that need to be carried out when preparing to construct the new highway, considering the Metropolitan local authorities planning procedures and local environment. • Proposals for methods of site preparation and earthworks required to control the line and level of the new highway • An explanation of the procedures used to plan any new highways, including location, land acquisition and sources of funding

Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
32/A.D1	Produce accurate and comprehensive proposals for a new highway, justifying decisions made for route location and earthwork design against resources and constraints.
32/A.M1	Produce accurate proposals for the activities that need to be carried out when preparing to construct a new highway, taking into account planning procedures and constraints.
32/A.P2	Explain the procedures used to plan new highways, including location, land acquisition and funding
32/A.P1	Produce proposals for methods of site preparation and earthworks required to control the line and level of a new highway
Task 2	The local authority is also interested in both drainage and pavement construction and wants you to include in your proposals: • An accurate and comprehensive plan for the design, which justifies your decisions made for the proposed pavement and drainage schemes showing potential alternatives forms of construction. • Proposals for dealing with surface water drainage, including land and subsoil drainage and an explanation of the different options available
Checklist of evidence required	Well referenced set of proposals with images and drawings, with clear conclusions relating to highway design solutions that can be adopted for the task scenario. This should be a word-processed document with appropriate formatting and page numbers, and an easy to read font.

Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
32/B.P3	Produce plans for highway construction that include different forms of construction.
32/B.P4	Explain methods for providing surface water drainage, including land and subsoil drainage.
32/B.M2	Produce accurate plans for highway design, taking into account drainage requirements.
32/B.D2	Produce accurate and comprehensive plans for highway designs, justifying decisions made for pavement and drainage.

Sources of information to support you with this Assignment	Martin Rogers, Highway Engineering,2nd Edition (Blackwell 2008) ISBN 9781405163583 John Watson–Highway Construction & Maintenance, (Longman) ISBN 0582234123 C A O'Flaherty, Highways The location, Design, Construction& Maintenance of Pavements, 4th Edition (Butterworth)

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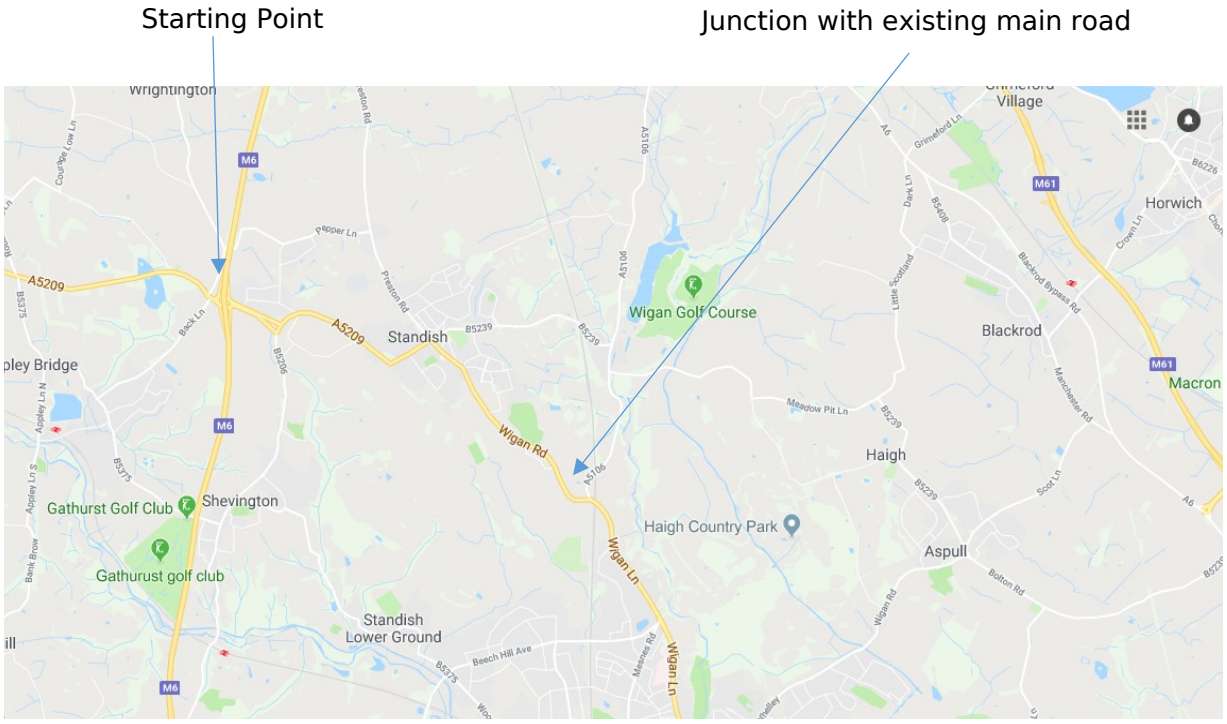
Other assessment materials attached to this Assignment Brief	*Map below*



The above image shows the Motorway junction and planned location of new highway junction with the local main road[1]

[1] https://www.google.com/maps/

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